

Peripheral ossifying fibroma related to Class II furcation defects in upper molar: Clinical case report

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Abstract

Background: Peripheral ossifying fibroma (POF) is a hyperplastic inflammatory reaction that occurs exclusively on gingiva and affects women. Recurrence is not uncommon and the presence of severe periodontitis increases the recurrence risk because sites with furcation involvement or bone defects may complicate the total lesion removal. This paper aims to report a case of POF associated to a class II furcation in a patient with periodontitis. **Case report:** Female patient, 58 years old, with recurrence of gingival tissue growth, which had been excised 6 months earlier and diagnosed as POF. The lesion presented as an asymptomatic nodular mass in the posterior maxilla, non-ulcerated, erythematous, sessile, firm and non-tender. Clinical examination also showed presence of periodontitis as a manifestation of systemic diseases. At the lesion site was present probing depth of 9 mm, bleeding on probing and Class II furcation defect. Surgical resection and meticulous scaling and root planing were performed, taking care to completely excise the lesion. There was no recurrence of the lesion one year later, with improvement in health clinical parameters, such as reduction in probing depth to 3 mm, no bleeding on probe, clinical attachment level gain and furcation closure. **Conclusion:** Within the limits of this case report, it can be concluded that when POF occurs concurrently with a furcation involvement, because of its anatomical features, it represents a challenge for clinicians and increases the recurrence risk.

Keywords: Ossifying fibroma. Periodontitis. Periodontal attachment loss.

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Introduction

Peripheral ossifying fibroma (POF) is a non-neoplastic hyperplastic lesions which may emerge in the gingival tissues as a result of local irritants or trauma such as plaque, calculus, unsatisfactory dental restorations and orthodontic appliances. Therefore, POF is considered an hyperplastic inflammatory reaction^{1,2,3} which is likely originated from the periodontal ligament. This change comprises up to 2% of all oral lesions which are biopsied.⁴ Among reactive lesions located on the gingiva, POF represented 20.4%.⁵

POF predominantly affects women^{1,3,5} and can occur at any age group, although it is more prevalent in adolescents and young adults, occurring mainly in the second and third decade of life.^{5,6} The lesions affect only the gingiva, usually on the interdental papilla in the anterior portion of maxilla.^{1,2,5,7}

Clinically, POF is manifested with well-demarcated pedunculated or sessile, usually asymptomatic focal mass and measuring often less than 2 cm. The lesions have a reddish color, or even a color similar to normal gingiva with the surface often ulcerated.^{2,5,7} The vast majority of these lesions is not related to the radiographic appearance of bone destruction;⁸ however, the presence of a hyperplastic gingival lesion certainly difficult the hygiene on the site, causing a biofilm accumulation and supporting the development of plaque-induced periodontal disease, such as periodontitis, which results in bone resorption.

When POF is found in a patient with severe periodontal disease, the procedure for excision of the lesion can be difficult. Sites with furcation defects or intraosseous defects may be a limitation for the complete removal of changed tissue, which can lead to the

recurrence of lesion. The objective of this work is to report a case of peripheral ossifying fibroma occurring simultaneously with a class II furcation defect in a patient with periodontitis as manifestation of systemic disease.

Case report

A 58 years old, female patient with history of gingival hyperplasia visited the clinic of the School of Dentistry of Piracicaba, State University of Campinas. The medical history showed the presence of controlled type 2 diabetes mellitus. The patient also reported a slow-growing lesion, painless, approximately 2 years of course, which had been excised, underwent the histopathological examination and diagnosed as POF six months ago. Nevertheless, the patient exhibited the recurrence of lesion three months after surgical removal. Clinically, the lesion presented as a non-ulcerated, sessile asymptomatic nodular mass on the palate, site of the interdental papilla between the first molar and right upper second premolar of 0.9 cm X 0.6 cm, with hard and firm consistency. Overlying mucosa had erythematous (Fig. 1). Clinical examination also identified the presence of periodontitis as manifestation of systemic disease, with probing depth of 9 mm,



Figure 1 - Initial clinical aspect.

bleeding on probing, and presence of a class II furcation defect at the site where the lesion was developed (Fig. 2). Radiographic examination revealed a radiolucent lesion suggestive of resorption in mesial crestal bone to first molar (Fig. 3).

The occurrence of the lesion can lead to the indication for extraction of the tooth that is acting as plaque retention factor, since the lesion is characterized as reactive. However, it was decided only by excision of the lesion without extraction of adjacent teeth. Under local anesthesia, the surgical removal of the lesion was performed associated with meticulous scaling and root planing, taking care the altered tissue was completely removed, including those confined to the

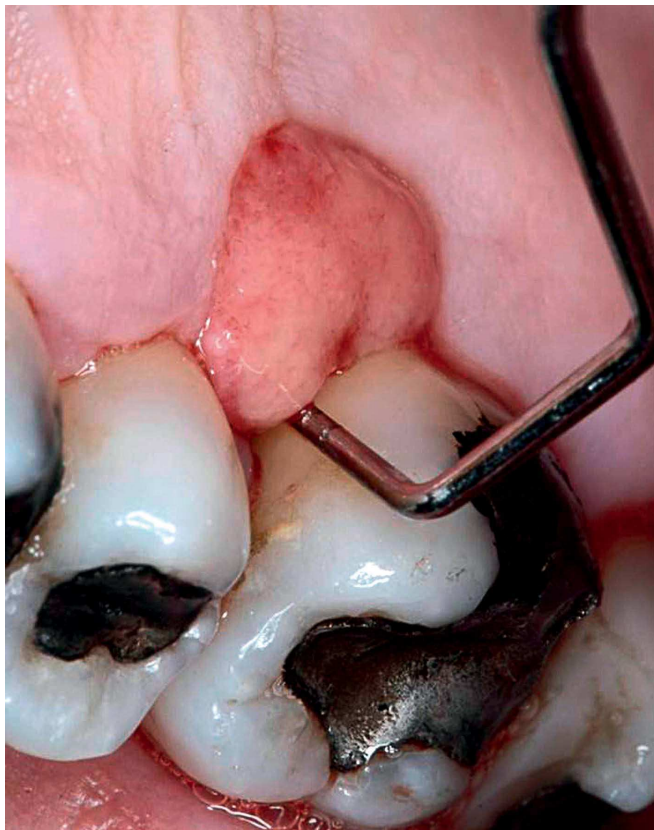


Figure 2 - Presence of hyperplastic lesion related to probing depth of 9 mm and Class II furcation defect.

furcation defects in which the debridement was also performed (Fig. 4, 5). The removed lesion underwent the histopathological analysis, revealing a dense, very cellular and fibrous connective tissue covered by stratified squamous epithelium and containing numerous focal areas of calcification (Fig. 6). Connective tissue was infiltrated with inflammatory cells and showed the presence of some dilated blood vessels (Fig. 7).

After surgery, the patient reported dentine hypersensitivity in the first molar, likely due to extensive scaling and root planing performed during surgery to ensure the removal of the entire lesion in the furcation area. During a month, the patient received treatment with fluorine in order to reduce the dentine hypersensitivity and the use of 0.12% chlorhexidine gel in sites involved as adjuvant was recommended for local hygiene. There was no relapse of the lesion after one-year follow-up, presenting even with improvement in clinical parameters of periodontal health (Table 1), such as reduction in probing depth to 3 mm, absence of bleeding on probing, clinical attachment gain and furcation closure (Fig. 8). Radiographic examination also revealed new bone formation (Fig. 9).



Figure 3 - Initial radiographic appearance.

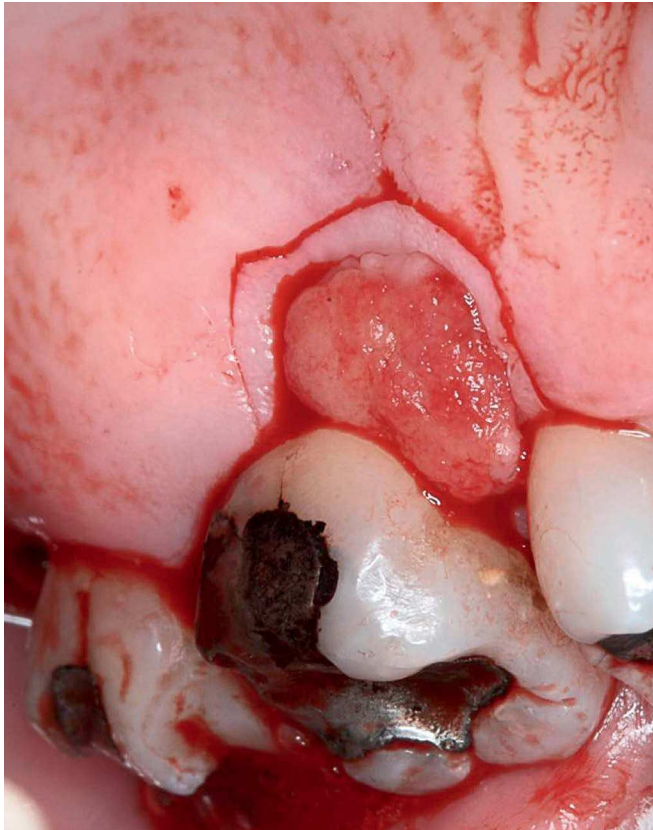


Figure 4 - Incision performed for complete excision of the lesion.

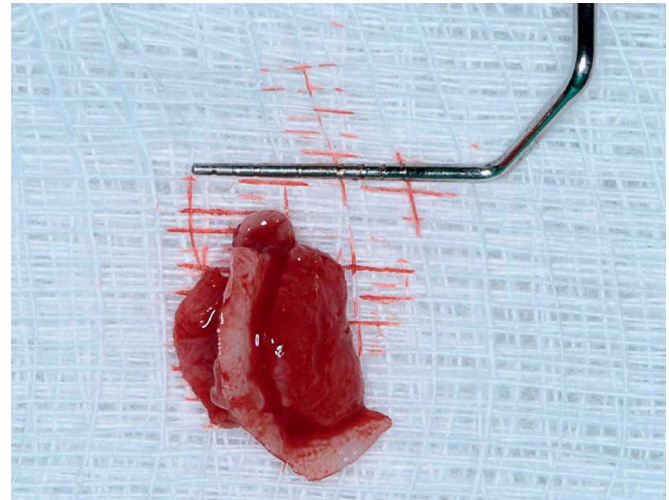


Figure 5 - Excised lesion.

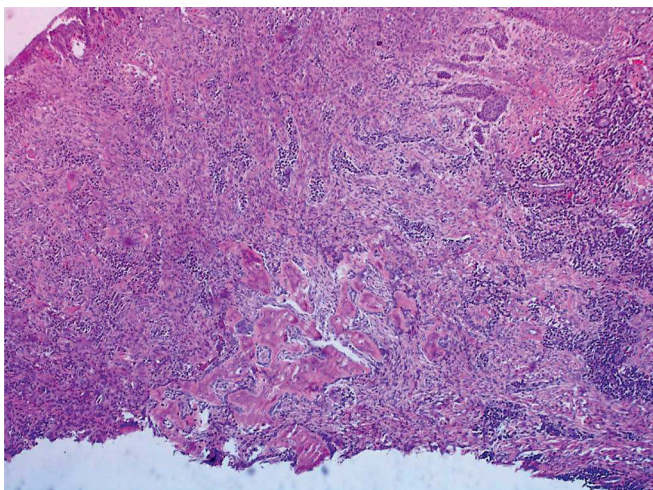


Figure 6 - Histopathological aspect revealing numerous focal areas of calcification.

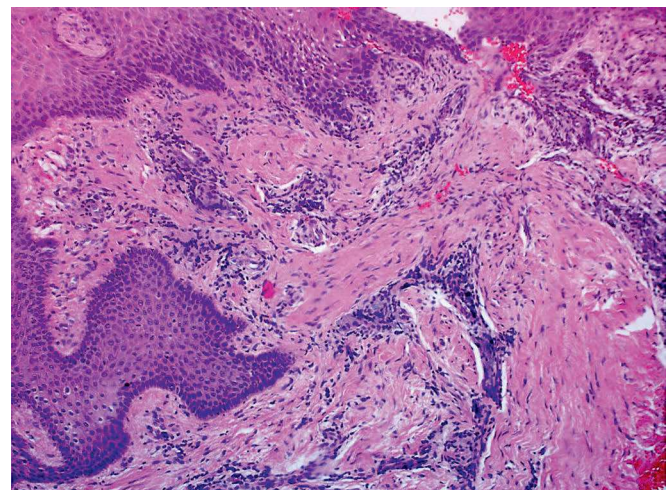


Figure 7 - Histopathological aspect revealing infiltrate connective tissue with inflammatory cells and the presence of some dilated blood vessels.

Table 1 - Measures of the clinical parameters (mm) evaluated before and after 1 year.

Tooth	Preoperative																Postoperative																							
	24				25				26				27				24				25				26				27											
Face	M	V	D	P	M	V	D	P	M	V	D	P	M	V	D	P	M	V	D	P	M	V	D	P	M	V	D	P	M	V	D	P	M	V	D	P	M	V	D	P
PD	5	2	5	3	5	2	5	3	10	3	5	7	5	2	5	5	3	2	3	2	3	2	3	2	3	2	3	3	3	3	2	3	2	3	2	3	3	2	3	3
GR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	2	2	0	2	3	1	0	0	0	1			
CAL	5	2	5	3	5	2	5	3	10	3	5	7	5	2	5	5	3	2	4	3	3	2	4	4	5	3	5	5	4	2	3	4								
Furc.	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BP	+	-	+	+	+	-	+	+	+	+	+	+	+	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-		
PP	-	-	-	-	-	-	-	-	+	+	+	-	+	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	+	-		

PD: Probing depth; CAL: clinical attachment level; GR: gingival recession; BP: bleeding on probing; PP: presence of plaque.

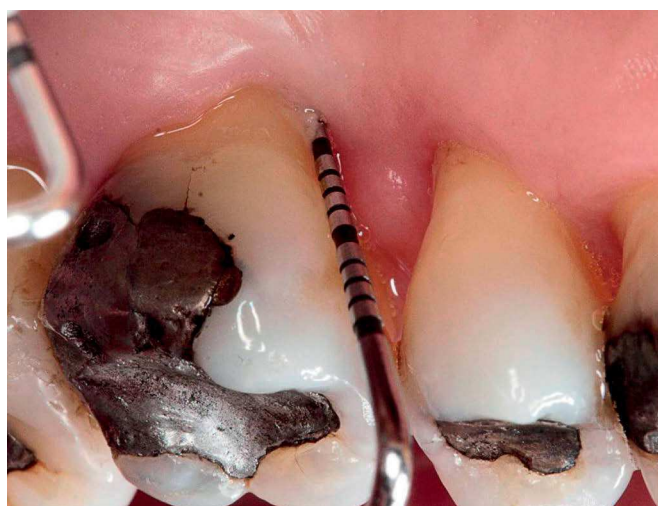


Figure 8 - Final clinical aspect after 1-year follow-up.



Figure 9 - Radiographic appearance after 1-year follow-up, showing bone formation.

Discussion

Reactive lesions and periodontal disease may have common etiologic factors, such as subgingival bio-film. Periodontal disease often coexists with diabetes mellitus, as shown in this case report. According to Grossi e Genco,⁹ diabetes is a risk factor for severe periodontal disease. In addition, diabetes mellitus is related to a high prevalence of oral lesions, particularly lichen planus, recurrent aphthous stomatitis, oral candidiasis or epithelial hyperplasia. Thus POF related

to periodontal disease may not be a rare clinical finding. In such cases, the control of etiologic factor is as important as surgical removal of the lesion.

Most POF lesions often have less than 2 cm of size,^{2,5,7} as shown in this case. However, if surgical intervention at an early stage is not done, the lesion may have larger sizes, and in rare cases exhibit up to 6 cm, as reported by Bodner.¹⁰ Exuberant growth of the lesion can cause extensive destruction of underlying bone and

significant functional or esthetic changes.¹⁰ However, this growth potential and bone destruction of the POF is rare in literature. Most POFs is not related to radiographic image suggestive of bone destruction.⁸ In this case reported, thus the occurrence of FOP with a short period of evolution and of small size, related to a radiolucent lesion which characterizes the horizontal bone loss and furcation involvement, suggests the presence of previous periodontal disease. Clearly, POF has no causal effect with periodontitis, but the presence of a gingival hyperplastic lesion difficult the control of daily plaque carried by the patient, which can promote the development of plaque-induced periodontal changes.

In a series of 50 cases reported by Eversole and Rovin,¹ the recurrence rate of POF was 20%. To minimize this tendency, it is important to occur the complete excision of the lesion, including the periosteum and the periodontal ligament involved, as well as the removal of local irritants such as biofilm.⁷ Repeated recurrences are not uncommon, and in this case report the recurrence risk was even higher because the presence of periodontitis, with consequent horizontal bone defect and furcation involvement, increases the difficulty to the access and complete excision of the lesion. Moreover, close furcation involvements have difficult clinical and radiographic diagnosis,¹¹ because the presence of adjacent teeth and, in this case, the presence of hyperplasia prevents access to the area. There is also the possibility of overlap of structures in the radiographic image. Thus, it can be inferred the first surgical procedure resulted in incomplete removal of the lesion and inadequate debridement of the furcation area. As a result, there was the persistence of clinical and radiographic signs of periodontal disease and recurrence of the lesion.

In order to ensure there is no subsequent recurrence of the POF, the lesion was excised and meticulous scaling and root planing were performed with particular caution to the furcation area so the complete removal of the lesion and appropriate debridement of the area were achieved. Mechanical subgingival debridement and the establishment of a local environment compatible with gingival health are essential to prevent the progression of periodontal disease and tooth loss. Multirouted teeth with furcation involvement have a challenge to the clinician due to their complex anatomical characteristics and their relative inaccessibility to the professional control of plaque and daily control of plaque, performed by the patient. However, appropriate debridement may lead to a survival of 90% after 5 to 9 years.¹¹ In contrast, extensive scaling and root planing can cause the development of dentine hypersensitivity. However, in this case, the extensive scaling and root planing were important to exclude the possibility of relapse of the lesion and to ensure adequate daily control of plaque performed by the patient essential for the periodontal healing and furcation closure. Despite the dentine sensitivity reported by patient after surgical procedure, this was well controlled with the application of fluoride and control of acid diet. One year after the procedure, the site remained stable and there was closure of Class II furcation defect. Until this period, no recurrence of the lesion was observed.

Within the limits of this case report, it can be conclude that, when POF occurs simultaneously with a furcation involvement, due to its anatomical characteristics, the defect represents a challenge for clinicians and increases the risk of recurrence of the lesion. Thus, meticulous scaling and root planing are important to prevent recurrence of the lesion.

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